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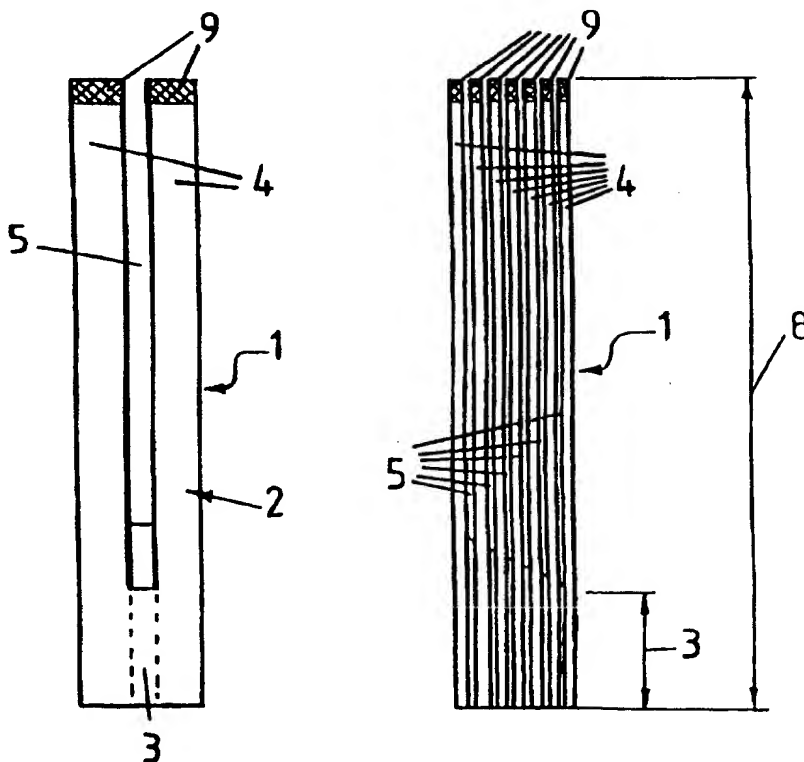
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(54) Title: COMBUSTION PIECE

(57) Abstract

The object of this invention is a combustion piece (1) used for lighting fireplaces and open fires, etc., or just as a source of heat, e.g. a small open fire. The burning piece (1) of this invention is characterised by consisting of the stem part (2) which is wood, with slats (4) separated by air gaps (5) at its other end. The slats (4) are attached by their other end to the end piece (3).



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COMBUSTION PIECE

The object of this invention is the combustion piece as described in the foreword of the attached patent claim.

Nowadays fires are lit in many ways, e.g. by using paper, combustion blocks, bark or wood chips.

The current methods have the following bad sides. When using paper for lighting, the paper burns too quickly and it needs to be added to get the fire wood heat sufficiently to set them on fire. Using combustion blocks is not environmentally friendly since the blocks are often made of environmentally harmful substances. Using bark and wood chips causes extra work and rubbish.

The above mentioned can be minimised by using the combustion piece of the invention. Its characteristics are stated in the attached patent claims.

The most important benefit of the invention is that it is a pure natural product because it is made of wood. It is easy and tidy to use and time for setting the fire is less than before. It is light which makes it or them easy to carry with you and use it as a portable open fire. Then there is no need to find fire wood from the forest and no damage is caused to the environment. Due to the points stated above, the use of the combustion piece brings economic savings. The combustion piece can have sulphur ends in which case matches are not needed. The combustion piece can also be used in flues to get initial draft in it.

The following presents the invention in detail with references to the attached figures.

Figure 1 presents one combustion piece according to the invention looked vertically from the side.

Figure 2 presents the combustion piece of figure 1 looked vertically from the other side.

Figure 3 presents the combustion piece of figures 1 and 2 looked vertically from the end.

Figure 4 presents an open fire made of the burning pieces looked diagonally from above.

Figures 1, 2 and 3 present the combustion piece 1 which consists of the stem part 2 which has the following parts: end piece 3, slat 4, air gap 5, side 7a, side 7b, length 8 and detonating agent 9.

The combustion piece 1 is most cost effectively made of pine wood, which is dry with the dampness of 8-10% at best. The wood grain are along the length 8 of the stem part 2.

The combustion piece 1 can be made e.g. as follows. First fillets are sawn of dry wood along its grain, the measures of the sides of the fillets are same as the sides 7a and 7b of the stem part 2. Next the fillets are cut to the same length as the length 8 of the stem part 2. Before cutting the fillets can be planed with e.g. a lath plane. Next the air gaps 5 are sawn with e.g. a band saw so that there is a end piece 3 at the other end of the stem part 3. The end piece 3 keeps the slats 4 together. The slats 4 are formed while sawing the air gaps 5.

As a summary it can be said that the combustion piece 1 is formed of the stem part 2, which is wood, which has slats 4 separated by air gaps 5 at its other end. The slats 4 are attached from their other end to the end piece 3. The slats 4 are along the wood grain and go along the length 8 of the stem part 2. On the sides 7b the air gaps 5 of the slats 4 are as long as the length of the whole stem part 2. Also there are one or more air gaps 5 which are between the sides 7a, and

which are attached to the from their other end to the end piece 3, which keeps the slats 4 attached to the stem part 2. The ignition agent 9 is at the free end of the slats 4. The ignition agent 9 is sulphur, and when the agent previously known on match-boxes is scraped against by the ignition agent 9, the sulphur ignites and ignites either one or more slats 4. Slats 4 can easily be detached from the stem part 2 and be used separately.

The combustion piece 1 can be dipped in paraffin to ease the ignition.

The measures of the combustion piece 1 can vary so that e.g. its cross-section is rectangular.

The slats 4 of the combustion piece 1 can be of different thickness and length in the same stem part 2. By the thickness of the slats 4 and the size of air gaps 5 the time of burning can be affected.

The shape of the stem part of the combustion piece 1 can be, looked from above, other than square or rectangular. It can be e.g. a circle.

Small combustion pieces 1 can be joined together according to the figure 4 with the help of e.g. package 6, in which case the combustion pieces 1 can be lighted and burnt simultaneously and can be used like a small open fire for e.g. cooking. The package 6 can be manufactured of recycled cardboard. Another way of making a portable open fire is that one combustion piece is made big enough to burn on its own as an open fire. The third way to make an open fire is to join the combustion pieces together with the slats 4 interlocked.

The combustion piece 1 can be used as follows: the combustion piece 1 is placed in the fireplace and fire wood is put around it and then the combustion piece is lighted and it creates heat and sets the fire wood I fire. The combustion piece 1 can, of course, be put last in the fireplace among the fire wood. The

combustion piece 1 can also be placed standing up or horizontally. The length of burning is longer if it is standing up. The lighting of the combustion piece 1 is done from the ends of slats 4.

The ignition agent 9 is put at the ends of the slats by means previously known, e.g. by dipping the ends of the slats 4 in liquid sulphur after which the sulphur is allowed to dry.

When using the combustion piece 1 as an open fire, the slats 4 are placed upwards and lighted from the middle of the slats allowing the fire to be spread equally.

The invention is not restricted to the above mentioned ways of use but various alterations are possible within the restrictions for using an invention as stated in patent claim.

PATENT CLAIMS

1. Combustion piece (1) used for lighting fireplaces and open fires, etc., or just as a source of heat, e.g. a small open fire, k n o w n for the combustion piece consisting of a stem part (2) which is wood, with slats (4) separated by air gaps (5) at its other end. The slats (4) are attached by their other end to the end piece (3).
2. Combustion piece (1) according to the patent claim (1), k n o w n for having air gaps (5) between slats (4) along the sides (7b) and that are as long as the length (8) of the whole stem part (2), and that there are one or more air gaps (5) of the sides (7a) and they are attached to the end piece (3) which keeps the slats (4) attached to the stem part (2).
3. Combustion piece 1 according to the patent claims 1 and 2 k n o w n for the slats (4) being along the wood grain.
4. Combustion piece 1 according to the patent claims 1, 2 and 3 k n o w n for having ignition agent (9) at the free end of the slats (4).
5. Combustion piece 1 according to the patent claim 2 k n o w n for the ignition agent (9) being sulphur, and when the ignition surface is scraped, the sulphur lights up and it lights up one or more slats (4) at the same time.

AMENDED CLAIMS

[received by the International Bureau on 17 April 1997 (17.04.97);
original claims 1-5 replaced by new claims 1 and 2
(1 page)]

1. Burning piece (1) used for lighting fireplaces and open fires, etc., or just as a source of heat, e.g. a small open fire. The burning piece (1) consists of the stem part (2) which is wood, with slats (4) separated by air gaps (5) at its other end. The slats (4) are attached by their other end to the end piece (3). The piece (1) is k n o w n for the slats (4) attached, but detachable, by their one side to the end piece (3), and hence the slats (4) can be used separately.

2. Combustion piece (1) according to the patent claim 1, k n o w n for the combustion pieces (1) being connected to each other with slats (4) interlocked.

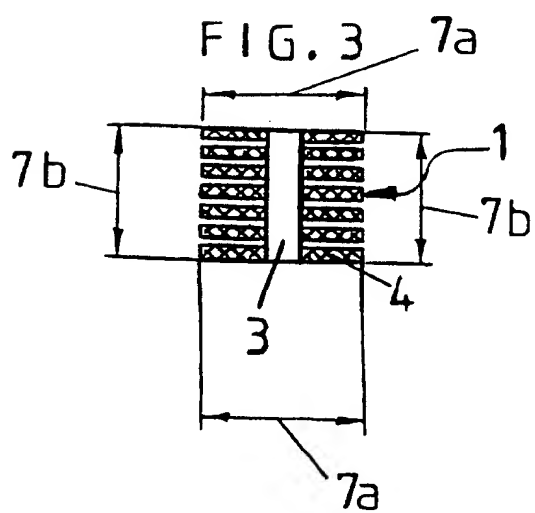
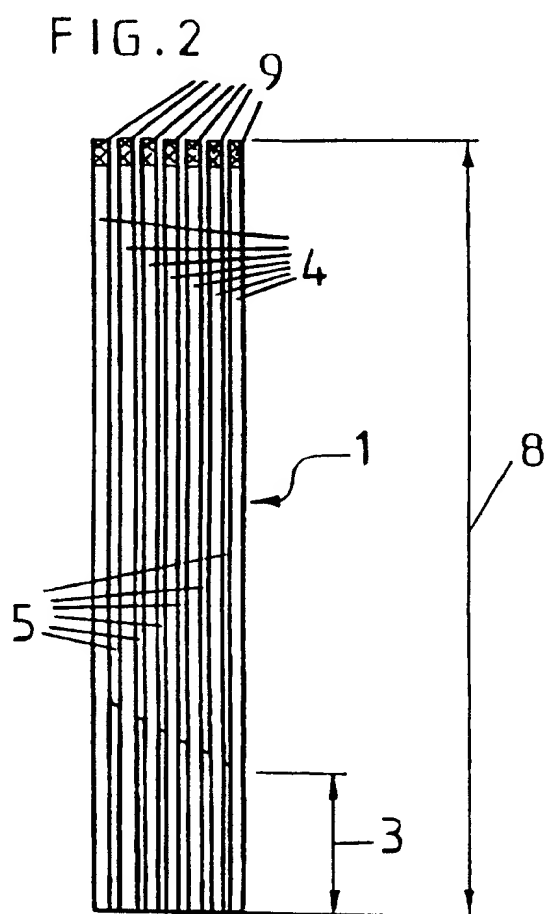
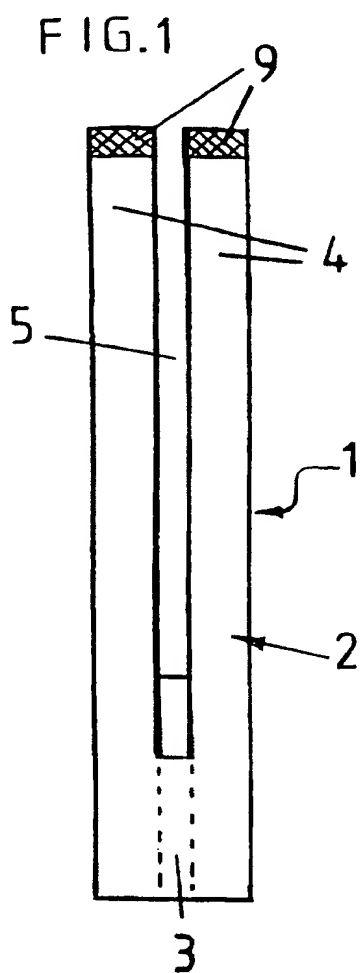
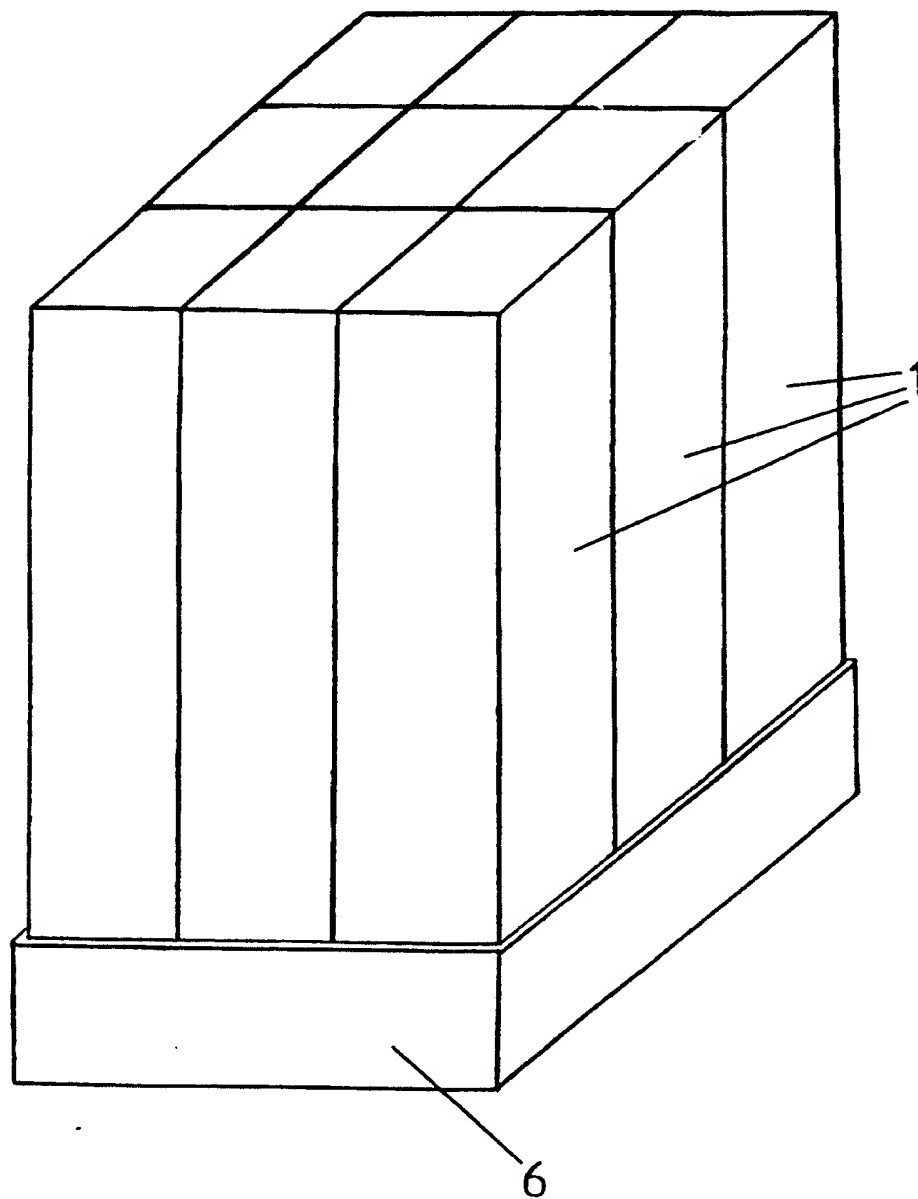


FIG. 4



INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 96/00655

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: C10L 11/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: C10L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI, CLAIMS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FI 56394 B (EINO ALEKSANTERI KURKELA), 28 Sept 1979 (28.09.79), figure 1, claim 1 --	1-5
X	DE 697888 C (WILHELM LAMPRECHT), 25 October 1940 (25.10.40), figure 1 --	1-3
X	DE 843250 C (MARCEL FRACHEBOUD), 7 July 1952 (07.07.52), page 2, column 1, line 27 - line 32, figure 1 --	1,3-5
X	DE 368412 C (GEORG GLOYSTEIN), 5 February 1923 (05.02.23), figure 2 --	1,3-5

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

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Date of the actual completion of the international search

1 April 1997

Date of mailing of the international search report

03 -04- 1997

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INTERNATIONAL SEARCH REPORT

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PCT/FI 96/00655

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 696267 A (C. POLLARD), 25 March 1902 (25.03.02), figures 2-3 --	1-5
A	DE 3510429 A1 (TORU, UNO), 25 Sept 1986 (25.09.86), figure 1, claim 1 -- -----	1-5

INTERNATIONAL SEARCH REPORT
Information on patent family members

04/03/97

International application No.
PCT/FI 96/00655

Patent document cited in search report			Publication date	Patent family member(s)	Publication date
FI	56394	B	28/09/79	NONE	
DE	697888	C	25/10/40	NONE	
DE	843250	C	07/07/52	NONE	
DE	368412	C	05/02/23	NONE	
US	696267	A	25/03/02	NONE	
DE	3510429	A1	25/09/86	NONE	